Electronic Version
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Claims

[c1] A sidewall coring tool, comprising:
a tool body;
a hollow coring shaft extendable from the tool body;
a formation cutter disposed at a distal end of the hollow coring shaft; and
a retention member defining one of a plurality of petals, an aperture and combinations thereof, the retention member disposed in the hollow coring shaft.

[c2] The sidewall coring tool of claim 1, further comprising an internal sleeve disposed inside the hollow coring shaft, and wherein the retention member is connected to the internal sleeve.

[c3] The sidewall coring tool of claim 2, wherein the retention member is disposed proximate a distal end of the internal sleeve.

[c4] The sidewall coring tool of claim 2, wherein the internal sleeve comprises a non-rotating sleeve.

[c5] The sidewall coring tool of claim 2, wherein the internal sleeve comprises a radial notch such that the petals of the retention member can be positioned radially outward

into the notch.

[c6] The sidewall coring tool of claim 5, wherein the retention member has a petal circumference that is substantially the same as an inner diameter of the internal sleeve.

[c7] The sidewall coring tool of claim 2, further comprising a piston disposed inside the internal sleeve and axially moveable with respect to the internal sleeve.

[c8] The sidewall coring tool of claim 2, further comprising a check valve disposed in the internal sleeve.

[c9] The sidewall coring tool of claim 8, wherein the check valve is disposed in a proximal end of the internal sleeve.

[c10] The sidewall coring tool of claim 9, wherein the check valve enables a fluid to flow out of the internal sleeve.

[c11] The sidewall coring tool of claim 1, wherein an inner diameter of the internal sleeve is substantially the same as an inner diameter of the formation cutter.

[c12] The sidewall coring tool of claim 1, wherein an inner diameter of the internal sleeve is larger than an inner diameter of the formation cutter.

[c13] The sidewall coring tool of claim 1, wherein the internal sleeve comprises a bladder configured to apply radial

pressure to a core sample when the bladder is selectively filled with a fluid.

[c14] The sidewall coring tool of claim 1, wherein the plurality of petals comprises 3 petals.

[c15] The sidewall coring tool of claim 1, wherein the plurality of petals overlap.

[c16] The sidewall coring tool of claim 1, wherein the plurality of petals are separated by gaps.

[c17] The sidewall coring tool of claim 1, wherein the retention member comprises perforations.

[c18] The sidewall coring tool of claim 17, wherein the perforations are circumferential perforations disposed outside a petal circumference.

[c19] The sidewall coring tool of claim 17, wherein the perforations are radial perforations disposed at least partially inside a petal circumference.

[c20] The sidewall coring tool of claim 1, wherein the plurality of petals are adjacent.

[c21] The sidewall coring tool of claim 1, wherein the retention member is constructed of rubber.

[c22] The sidewall coring tool of claim 1, wherein the retention

member is rounded and extrudes towards a distal end of hollow coring shaft.

[c23] The sidewall coring tool of claim 1, wherein the retention member is rounded and extrudes towards a proximal end of the hollow coring shaft.

[c24] A method for taking a core sample, comprising:
extending a coring bit into a formation, the coring bit having a retention member segmented into a plurality of petals;
receiving the core sample in the coring bit; and
retaining the core sample in the coring bit with the retention member while withdrawing the coring bit from the formation.

[c25] The method of claim 24, further comprising selectively filling a bladder with a fluid to apply a radial pressure to the core sample.

[c26] The method of claim 24, wherein the retention member is connected to an internal sleeve disposed in the coring bit and the core sample is received in the internal sleeve.

[c27] A sidewall coring tool, comprising:
a tool body;
a hollow coring shaft extendable from the tool body;
a formation cutter disposed at a distal end of the hollow

coring shaft;

an internal sleeve disposed inside the hollow coring shaft; and

at least one retention mechanism selected from the group consisting of a piston and a check valve, wherein the piston is disposed in the internal sleeve and moveable with respect to the internal sleeve, and the check valve is disposed in the internal sleeve.

[c28] The sidewall coring tool of claim 27, wherein the at least one retention mechanism is the piston.

[c29] The sidewall coring tool of claim 28, further comprising a seal disposed between the piston and the internal sleeve.

[c30] The sidewall coring tool of claim 28, wherein an inner diameter of the internal sleeve is substantially the same as an inner diameter of the formation cutter.

[c31] The sidewall coring tool of claim 28, further comprising a check valve operatively connected to the internal sleeve.

[c32] The sidewall coring tool of claim 27, further comprising a retention member segmented into petals disposed proximate an opening at a distal end of the internal sleeve.

[c33] A method for taking a core sample, comprising:
extending a coring bit into a formation;
receiving the core sample in an internal sleeve having a piston disposed therein such that the piston is moveable with respect to the internal sleeve; and
withdrawing the coring bit from the formation.

[c34] The method of claim 33, further comprising selectively filling a bladder with a fluid to apply a radial pressure to the core sample.